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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHAU, DUNG K

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/763,741	Applicant(s) RAMANI ET AL.	
	Examiner DUNG K. CHAU	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 14-74 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/09/2005, 07/06/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, namely claims 1-13 in the reply filed on 4/30/2008 is acknowledged. Groups II-VII, claims 14-74 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to a non-elected.
2. Group I of this instant application has a total of 13 claims pending in the application; there are 2 independent claims and 11 dependent claims, all of which are ready for examination by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-2, and 4-7** are rejected under 35 U.S.C. § 102(b) as being anticipated by Gever et al. Patent. No. US 6,329,994.

As per **claim 1**, Gever et al. teach a method for searching, comprising:

receiving a three dimensional object (col. 11, lines 16-26; col. 27 line 46 – col. 28 line 3);

searching one or more data stores with the three dimensional object as a first search query (col. 11 lines 16-25);

presenting results from the search, wherein the results include an answer set (col. 11 lines 16-25);

dynamically receiving modifications for one or more items in the answer set (col. 11 lines 16-25; col. 27 line 61 – col. 28 line 9); and

re-searching the one or more data stores with the modifications associated with the one or more items as a second search query (col. 11 lines 16-25; col. 27 line 61 – col. 28 line 9).

As per **claim 2**, Gever et al. teach the method of claim 1 further comprising, converting the three dimensional object into a graph skeleton defining a graph data structure, wherein the graph data structure is the first search query (col. 9 line 53 – col. 10 line 5; col. 19 line 62 – col. 20 line 21).

As per **claim 4**, Gever et al. teach wherein the receiving the three dimensional object further includes presenting a list of three dimensional models and permitting the three dimensional object to be formed from selective ones of the list of three dimensional models (col. 1 lines 29-36; col. 26 line 52- col. 27 line 3).

As per **claim 5**, Gever et al. further teach wherein the presenting the results further include grouping selective portions of the one or more items in the answer set into related clusters (col. 26 line 64 - col. 27 line 8).

As per **claim 6**, Gever et al. further teach the method of claim 1 further comprising, receiving one or more filters which constrain the first or second search queries (col. 8, lines 5-23; col. 26, lines 28-50).

As per **claim 7**, Gever et al. further teach wherein the re-searching further includes identifying in the modifications for the one or more items information that identifies selective ones of the items that are more relevant to the first search query than selective other ones of the items (col. 27 line 46 - col. 28 line 9).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 3** is rejected under 35 U.S.C. § 103 (a) as being unpatentable over Gever et al. Patent No. US 6,329,994 in view of Igarashi et al. Patent No. US 6,549,201.

As per **claim 3**, Gever et al. teach wherein receiving the three dimensional object (col. 11, lines 16-26; col. 27 line 46 – col. 28 line 3);

However, Gever et al. do not explicitly teach further includes interactively permitting the three dimensional object to be sketched.

Igarashi et al. teach a sketching interface for quickly and easily designing freeform models such as stuffed animals and other rotund objects. The user draws several 2D freeform strokes interactively on the screen and the system automatically constructs plausible 3D polygonal surfaces (Abstract; col. 1, lines 35-66).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Gever et al. and Igarashi et al. to provide a sketching interface for a 3D freeform design, because it would allow user to sketch searchable object.

7. **Claims 8-13** are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Gever et al. Patent No. US 6,329,994 in view of Shoov et al. Pub. No. US 2003/0071810.

As per **claim 8**, Gever et al. teach a method of searching, comprising:

searching one or more data stores with the three dimensional representation as a first search query (col. 11 lines 16-25); and

presenting one or more items in an answer set that is responsive to the first search query of the one or more data stores (col. 11 lines 16-25);

However, Gever et al. do not teach

- a) receiving a two dimensional object ;
- b) mapping the two dimensional object to a three dimensional representation.

Shoov et al. teach

a) receiving a two dimensional object as the functions can include the ability to import two-dimensional representations of a three-dimensional object (abstract);

b) mapping the two dimensional object to a three dimensional representation as the 2D drawing 303 consists of four 2D views 304-310. Mapping each view into 3D space may occur immediately after each view is selected and the orientation is indicated (page 2, paragraphs [0012, 0013, and 0028]; page 5, paragraphs [0052-0053]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Gever et al. and Shoov et al. to map 2D views to 3D representation, because it would reduce or simplifying the steps needed to convert between 2D and 3D representations of an object.

As per **claim 9**, Gever et al. further teach wherein the mapping further includes:

representing the three dimensional skeleton as a three dimensional graph structure, wherein the three dimensional graph structure is used as the first search query (col. 9 line 53 – col. 10 line 5; col. 19 line 62 – col. 20 line 21).

However, Gever et al. do not explicitly teach representing the two dimensional object as a two dimensional skeleton as 2D representation of a model; and converting the two dimensional skeleton into a three dimensional skeleton.

Shoov et al. teach representing the two dimensional object as a two dimensional skeleton as 2D representation of a model (page 2, paragraph [0027]);

converting the two dimensional skeleton into a three dimensional skeleton as converting between 2D and 3D representations of a modeled object (page 2, paragraph [0027]; page 4, paragraphs [0044-0045]; and

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Gever et al. and Shoov et al. to convert two dimensional views of an object into a three dimensional model, because it would simplify the steps needed to convert between 2D and 3D representations of an object.

As per **claim 10**, Gever et al. further teach the method of claim 8 further comprising:

receiving relevance indications for a selective number of the one or more items in the answer set (col. 11 lines 16-25; col. 27 line 61 – col. 28 line 9); and

searching the one or more data stores with the selective number of the one or more items and the relevance indications as a second search query (col. 11 lines 16-25; col. 27 line 61 – col. 28 line 9).

As per **claim 11**, Gever et al. further teach retaining the relevance indications as preferences for subsequent search queries received and processed, where the retained relevance indications are used as filters to subsequent first queries (col. 8, lines 5-23; col. 26, lines 28-50; col. 27 line 46 - col. 28 line 9).

As per **claim 12**, Gever et al. further teach the method of claim 8 further comprising organizing the answer set as a plurality of related clusters, wherein each related cluster includes a selective number of the one or more items (col. 26 line 64 - col. 27 line 8).

As per **claim 13**, Shoov et al. further teach wherein the mapping further includes:
converting the two dimensional object into a two dimensional skeleton;
generating candidate three dimensional vertices for each of two dimensions of the two dimensional skeleton; generating candidate three dimensional edges from the candidate three dimensional vertices; creating candidate three dimensional faces from the three dimensional edges on a same surface; creating one or more three dimensional objects from the candidate three dimensional faces; and associating the one or more three dimensional objects with the received two dimensional object as the three dimensional skeleton (page 3, paragraphs [0030-0038]; page 4, paragraph [0045]; page 6, paragraph [0059]; page 7, paragraph [0072]; page 8, paragraph [0075]).

14.-74. (Canceled)

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Documents:

US 20020012454 A1	Liu, Zicheng et al.
US 20030058242 A1	Redlich, Arthur Norman
US 6133921 A	Turkiyyah; George M. et al.
US 6825838 B2	Smith; Matthew Warren et al.
US 6801641 B2	Eraslan; Arsev H.
US 6016487 A	Rioux; Marc et al.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung K. Chau whose telephone number is 571-270-1754. The examiner can normally be reached on Mon - Friday 7:30am - 5:00pm Est, Alt Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2161

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dung K Chau/
Examiner, Art Unit 2161

July 29, 2008

/KP/

/Apu M Mofiz/

Supervisory Patent Examiner, Art Unit 2161